

A GLOBAL SNAPSHOT OF WATER VAPOR FROM GPS/MET

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Orbiting GPS/GLONASS receivers making occultation observations can yield profiles of refractivity from which water vapor can be derived in the lower to middle troposphere with a unique combination of vertical resolution, global distribution and insensitivity to clouds and precipitation. We will review the resolution and accuracy expected from such observations and present water vapor data derived from **GPS/MET**. To isolate the water vapor contribution to refractivity, the temperature field from the closest 6 hour ECMWF global analysis has been spatially interpolated to the locations of each occultation. Comparisons with **radiosondes** and ECMWF analyses will be made. A 2-D (latitude vs. height) **climatological** snapshot has been derived from a 2-week span of **GPS/MET** data and will be compared to the ECMWF humidity field and the humidity climatology of Peixoto and **Oort**. Of particular note are the signature of the tropical **Hadley** circulation and biases between ECMWF and occultation humidity fields apparently related to the **Hadley** circulation. Further, the atmosphere below the 500 mb level is somewhat drier in general than the ECMWF humidity field. Some possible implications for the control of moisture will be discussed.

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2. Session: 0A26, GNSS-based atmospheric profiling and imaging

3. Convener: Per Hoeg

4. none

5. oral

6. NA